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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/026,278	12/18/2001	Eko N. Onggosanusi	TI-32854	8075

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EXAMINER

WONG, LINDA

ART UNIT PAPER NUMBER

2634

DATE MAILED: 11/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/026,278	Applicant(s) ONGGOSANUSI ET AL.	
	Examiner Linda Wong	Art Unit 2634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 August 2005.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-74 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1,2,10,13-15,19,21-32,34,35,39,40,42-44,47-49 and 53-74 is/are rejected.
7) ☒ Claim(s) 3-9,11,12,16-18,20,33,36-38,41,45,46 and 50-52 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 8/30/2005 have been fully considered but they are not persuasive.

Claim Rejections - 35 USC § 112

2. Regarding **claim 59**, due to the amendments to claim 57, the 35 USC 112 rejection is withdrawn.
3. Regarding **claim 68**, the applicant indicates the limitations of claim 68 are described in Fig. 3, labels 16', 20', 76, 78, 84, tat1 and tat2 and on page 19, paragraph [0038], lines 6-21. The 35 USC 112 rejection is withdrawn.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Regarding the arguments to rejections of **claims 1 and 31**, the applicant argues the examiner does not "state how a circuit to correct reference clock errors might be used to remove signal interference." Mueller et al discloses a global positioning system (GPS) comprising multiple transmitters, where in the receiver receives multiple transmitted data. The responsibility of GPS transmitters is to send data

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consisting the position of the transmitter and the receiver must decipher the information sent. Interference within the signal sent could be caused by drifts in the clock of each GPS satellite, which causes inaccurate interpretation of the transmitted data. (Col. 1, lines 14-40) Also, Mueller et al describes in Col. 2, lines 60-68, "GPS navigation error results from a variety of sources", one of which is satellite clock errors as discussed in Col. 18, lines 39-41. Such errors are corrected by the receiver using a method called differential GPS (DGPS). (Col. 2, lines 60-68 and Col. 3, lines 1-6) As disclosed by Mueller et al, Mueller et al teaches unsynchronized signal transmission causes satellite clock errors, which cause interference or errors in the received data affects the receiver's accurate analysis of the position or location of the satellite. Thus, it would be obvious to one skilled in the art to remove interference or satellite clock errors by selecting a linear transformation, which will be "used to eliminate unwanted reference receiver clock errors". (Col. 18, lines 39-41) Please refer to Col. 2-4 for further information describing satellite clock errors and DGPS.

5. Regarding **claim 2**, please refer to the rejection of claim 60 as stated in the previous office action and the additional rejection as stated in this office action.
6. Regarding **claims 10,13-15,19,21-30,34-35**, please refer to the rejections as stated in the previous office action.
7. Regarding **claim 32**, please refer to the rejection of claim 60 as stated in the previous office action and the additional rejection as stated in this office action.

8. Regarding **claim 39**, please refer to the rejection of claims 1 and 31 as stated in the previous office action and the additional rejection as stated in this office action.
9. Regarding **claim 40**, please refer to the rejection of claim 60 as stated in the previous office action and the additional rejection as stated in this office action.
10. Regarding **claim 42**, as disclosed in the rejection, above, of claims 1 and 31, claim 42 inherits all the limitations of claims 1 and 10.
11. Regarding **claims 43-44, 47-49, 53-59**, please refer to the rejections as stated in the previous office action.
12. Regarding **claim 58**, due to the amendments, please refer to the rejection of claim 29 as stated in the previous office action.
13. Regarding **claim 60**, Mueller et al discloses "A Housholder transformation matrix is selected, [Dor], in which the product of the matrix and the measurement matrix [B] of the partials of pseudorange errors with respect to the referece receiver clock errors, is zero: [Dor][B]=0." Mueller et al discloses the Housholder transformation matrix is selected based on the matrix, [B]. The matrix, [B], is a measurement matrix of the "pseudoranges that have been troposherpically and ionospherically corrected, as inputs, a measurement vector, Yk, can be constructed that contains all one epoch from all reference stations 12." The errors found in the ionosphere and troposphere is the channel in which the transmitted signal must travel until the receiver receives the sent message. Thus, the matrix, [B], is a measurement of the estimates of the channel or errors found in the ionosphere and troposphere. Since the selection of the Housholder transformation matrix is based on the matrix, [B],

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the selection of the linear transformation matrix is based on the channel estimate.

Regarding the limitation selecting the linear transformation matrix based on the interference removing method, Mueller et al discloses, as explained in the rejection of claims 1 and 31, using a differential GPS method to remove interference found in the signal received caused by in the ionosphere and troposphere. (Col. 18, lines 28-45, Col. 1, lines 14-45, Col. 4, lines 6-23, Col. 5, lines 17-68 and Fig. 4, labels 70, and 72)

14. Regarding **claims 61-67**, please refer to the rejections as stated in the previous office action.
15. Regarding **claim 68**, please refer to the rejection of claims 68 and 70 as stated in the previous office action and added explains to the rejection of claims 1 and 31.
16. Regarding **claims 69,71,73-74**, please refer to the rejection as stated in the previous office action.
17. **Claim 72** is rejected under 35 U.S.C. 103(a) as being unpatentable over the prior art admitted by the applicant (pages 1-5), in view of Dettman (Introduction to Linear Algebra and Differential Equations), further in view of Mueller et al. (US Patent No.: 5323322) and further in view of Bevan et al (US Patent No.: 6891897).
 - a. Regarding **claim 72**, Bevan et al discloses communication system comprising transmitting a training signal at a different channel or with a different Walsh code from a channel with a plurality of signals. (Col. 13, lines 57-67 and Col. 14, lines 11-20, lines 24-58) It would be obvious to one skilled in the art to transmit a predetermined or training signal at a different channel to increase system

capacity and provide information as to determining or deciphering wanted information and interference within a transmitted data signal.

Allowable Subject Matter


18. **Claims 3-9,11,12,16-18,20,33,36-38,41,45-46,50,51-52** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Linda Wong whose telephone number is 571-272-6044. The examiner can normally be reached on 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on (571) 272-3056. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Linda Wong


STEPHEN CHIN
SUPERVISORY PATENT EXAMINER
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